GE
Critical Power

USER MANUAL

Uninterruptible Power Supply

Line-interactive VCL Series UPS

400 – 600 – 800 – 1000 – 1500 VA

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User manual

Uninterruptible Power Supply

Line-interactive VCL Series UPS
400 - 600 - 800 – 1000 - 1500 VA

Please read these instructions carefully before installation and start-up of the VCL Series UPS. Keep this manual in a safe place for future reference.

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1 IMPORTANT SAFETY INSTRUCTIONS

1.1 SAVE THESE INSTRUCTIONS

This manual contains important instructions that should be followed during installation and maintenance of the UPS. It also gives all necessary information about the correct use of the UPS.
Before attempting to install and start up the UPS, carefully read this manual. Keep this manual next to the unit for future references.

> Full understanding of and compliance with the safety instructions and warnings contained in this manual are the
>
> **ONLY CONDITIONS**
>
> to avoid any dangerous situation during installation, operation and maintenance work, and to preserve the maximum reliability of the UPS system

GE refuses any responsibility in case of non-observance, unauthorized alterations or improper use of the delivered UPS.

The instructions in this manual are for UPS models VCL400, VCL600, VCL800, VCL1000 and VCL1500. You can find the model name at the rear panel of your UPS.

While every care has been taken to ensure the completeness and accuracy of this manual, GE accepts no responsibility or liability for any loss or damage resulting from the use of the information contained in this document.

1.2 SAFETY RULES

CAUTION! RISK OF ELECTRIC SHOCK

The UPS contains batteries. The appliance outlets may be electrically live, even when the UPS is disconnected from the mains.
The UPS contains potentially hazardous voltages. Do not open the unit, there are no user serviceable parts inside.
All maintenance and service work should be performed by qualified service personnel.

- The UPS is intended to be used in normal domestic and office situations.
- The branch circuit supply has to be protected with a 16 A building fuse.
- The UPS must be powered from a single phase grounded wall outlet. This wall outlet must be easily accessible and close to the UPS. Do not use extension cords.
- Place cables in such a way that no one can step on or trip over them.
- Avoid locations that are excessively humid, near water, near heat sources or in direct sunlight.
- The ambient temperature should not exceed 40°C. Optimal battery lifetime is obtained if the ambient temperature does not exceed 30°C.
- It is important that ventilation air can move freely around and through the unit. Do not block the air vents.
- Do not plug appliances such as electric heaters, toasters and vacuum cleaners into the UPS. The UPS output can be used only for electronic loads such as computers and telecommunications equipment.
- Always disconnect the input power cord from the wall outlet before replacing the battery.
- Never dispose of batteries in a fire: they may explode.
- Never disassemble or reassemble batteries; their contents (electrolyte) may be extremely toxic.
- Never short the battery terminals. Shorting may cause the battery to burn. When working with batteries remove watches, rings or other metal objects and only use insulated tools.
- Proper disposal of batteries is required: refer to your local codes for disposal requirements.

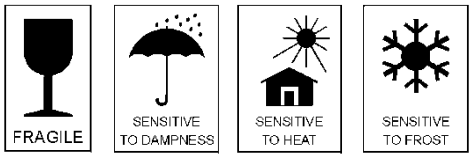
1.3 WARRANTY

GE, operating through its authorized agents, warrants that the standard products will be free of defects in materials and workmanship for a period as per contract specifications.

	NOTE This warranty does not cover failures of the product which result from incorrect installation, misuse, alterations by persons other than authorized agents, or abnormal operating conditions.

1.4 STORAGE

- Store the UPS in a dry location with the batteries in a fully charged state. Storage temperature must be within -15 +55°C. If the unit is stored for a period exceeding 3 months, optimal battery lifetime is obtained if the storage temperature does not exceed 25°C.
- If the unit is stored for an extended period of time, the batteries must be recharged every 2 months.

	CAUTION In case of storage, pay attention to:	

2 INSTALLATION & OPERATION

2.1 INTRODUCTION

The **GE (General Electric) VCL Series UPS**, a line-interactive uninterruptible power supply, has been designed to protect your sensitive electronic equipment such as computers and telecommunications equipment from virtually all forms of power interference, including complete power failures.

When the mains supply is present and the UPS is switched on, the UPS is charging the battery and providing power to the connected equipment from the AC line directly. In case of a mains failure the reliable battery can provide the stable power to complete your work, save the data and safely shut down your system.

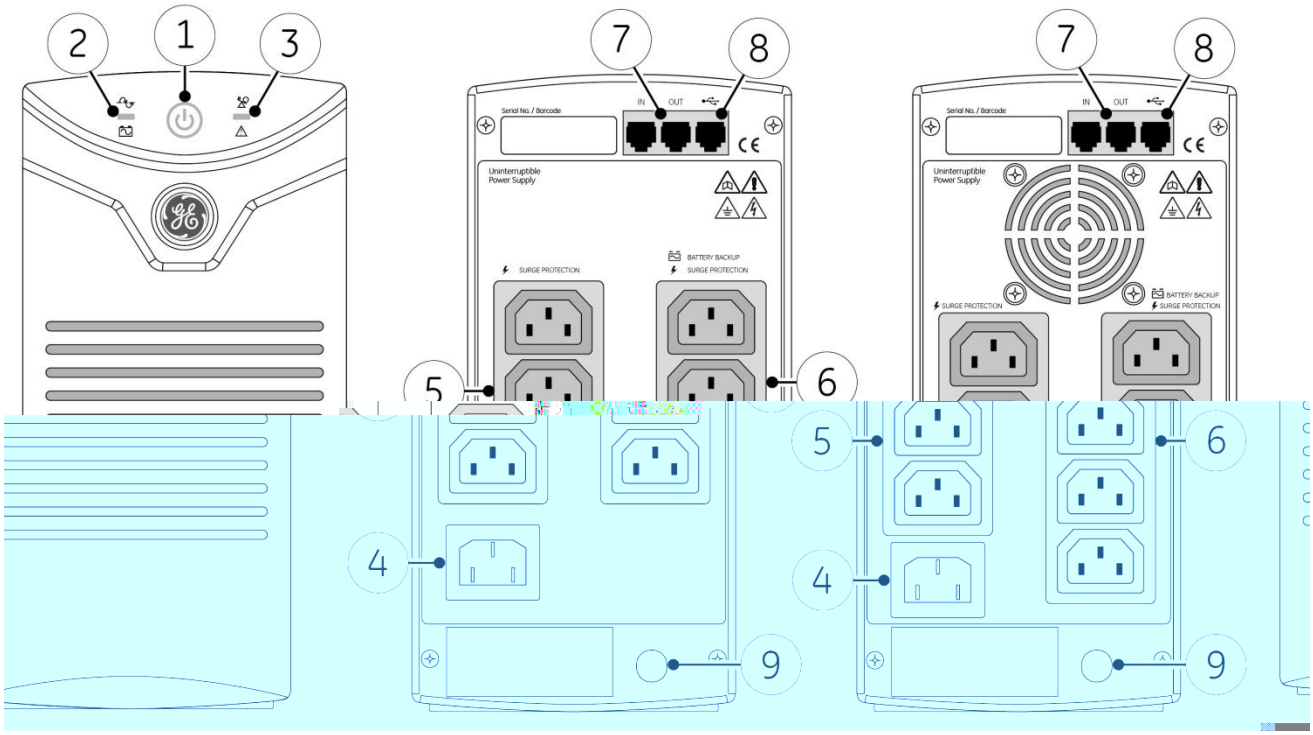
Inspect the UPS for damage after unpacking. If any damage is present please immediately notify the carrier and place of purchase.

	WARNING! In case of recognizable damage: **DO NOT** connect any voltage to the unit **DO NOT** put the unit into operation.

Condensation may occur if the UPS system is moved directly from a cold to a warm environment. The UPS system must be absolutely dry before being installed. Please allow an acclimatization time of at least two hours prior to installation. Save the original packing material. No liability can be accepted for any transport damage when the equipment is shipped in non-original packaging.

2.2 INSTALLATION

1. Connect the mains cord of the UPS to a working, grounded AC wall socket outlet. The unit will start automatically.
2. For best results, allow the UPS to recharge the batteries during a period of approx. 8 hours. It is acceptable to use the UPS without first charging the battery, but the runtime may be reduced.
3. Plug your computer and monitor into the "Battery backup & surge protection" outlets. These outlets will provide emergency battery backup power during a mains power failure as well as surge protection from surges and spikes.
   CAUTION: Do NOT plug LASER PRINTERS into any of the "Battery backup & surge protection" or "surge protection" outlets.
   CAUTION: Do NOT plug an ACCESSORY SURGE strip into any of the "Battery backup & surge protection" outlets.
4. Plug your peripheral equipment (printer, scanner, fax, speaker, etc.) into the "Surge protection" outlets.
   NOTE: These outlets will NOT provide battery backup power during a mains power failure.
5. When the "On mains" LED illuminates, switch on the connected equipment.



2.3 OPERATION

1. **ON/OFF Button**
   Press and hold the ON/OFF button for one beep, then release it to turn on (or turn off) the UPS. The UPS will charge the battery as long as the mains power is present.
   NOTE: When you turn on the UPS it will perform a self-test during which the alarm will sound intermittently.

2. **LED On mains/ on battery (green)**
   This green LED illuminates when the UPS is on and receiving the normal mains power. It indicates that the connected equipment is receiving power and the battery is charging.
   The LED will blink and the alarm beeps every 10 seconds when the UPS operates on battery.

3. **LED Overload/ replace battery/ UPS fault (red)**
   This red LED will blink and the alarm sounds 2 beeps every second when the load connected to the "Battery backup & surge protection" outlets exceeds the nominal capacity of the UPS. The UPS will automatically shut down after beeping for ten seconds.
   The LED will blink and the alarm sounds 3 beeps every 30 seconds when the UPS detects that the battery needs to be replaced soon. Allow the UPS to recharge the battery for at least 4 hours. If the LED lights again after 4 hours of charging, the battery needs to be replaced to ensure full protection for your equipment. Contact your dealer.
   When the UPS detects a hardware fault, the red LED will illuminate, the alarm will sound continuously and the UPS will shut down. In some instances the fault condition may be cleared by switching the UPS off and then on again.

4. **Input socket**
   AC mains supply to the UPS.

5. **Outlets "Surge protection"**
   The outlets provide full time protection from surges and spikes. Peripheral equipment that does not require power during a mains power failure, e.g. printers, scanners, fax machines, or speakers can be connected to these outlets.

6. **Outlets "Battery backup & surge protection"**
   The outlets not only provide full time surge protection but also provide emergency battery backup power during a mains power failure such as a blackout or brownout.

7. **Phone/FAX protection**
   The RJ11 jacks can provide protection against surges and spikes on your phone line.

8. **RJ11 USB communication port**
   The provided GE monitoring and shutdown software can be automatically configured to save your files and shut down your computer in the event of a prolonged power outage. Refer to the manual that came with the software.

9. **Circuit breaker**
   In case of a severe overload the circuit breaker may trip. The button will come out, the UPS is disconnected from the mains and output power is lost. In this situation reduce the load connected to the "Battery backup & surge protection" and/or "Surge protection" outlets of the UPS. Subsequently reset the circuit breaker by pushing the button back in.

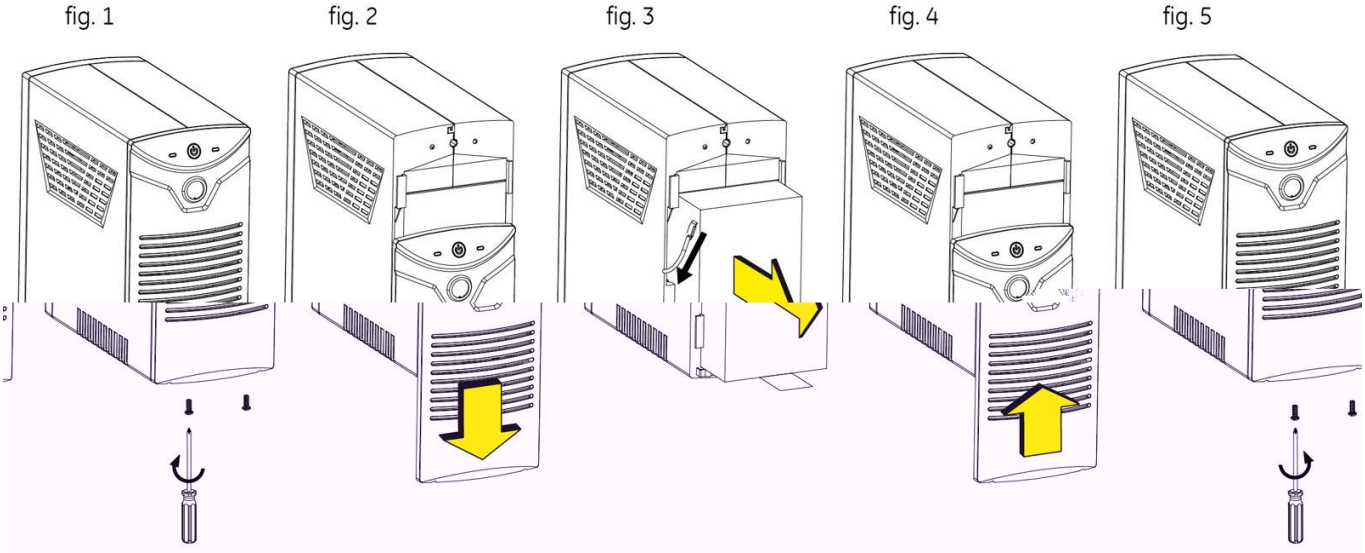
LED display & buzzer alarm list

Green LED	Red LED	Alarm	UPS Status Indication
On	X	X	On mains (bypass / AVR mode)
On	Blinking	3 beeps every 30 seconds	Replace battery
On	Blinking	2 beeps every second	Over load
X	On	Continuous buzzer	Fault / output short circuit
Blinking	X	1 beep every 10 seconds	On battery
Blinking	Blinking	2 beeps every 5 seconds	Battery low
X	On	Continuous buzzer	Battery over voltage

2.4 BATTERY REPLACEMENT PROCEDURE

(Qualified service personnel only)

1. Turn off the equipment that is connected to the output sockets of the UPS.
2. Turn off the UPS.
3. Unplug the UPS power cord from the AC wall outlet.
4. Unplug the equipment from the output sockets of the UPS.
5. Remove the 2 screws at the bottom side of the front panel (fig. 1.)
6. Slide the panel downward, off the UPS (fig. 2).
7. Disconnect the red and black DC wires from the battery terminals (fig. 3).
   NOTE : DO NOT short the battery wires.
8. Replace the battery.
9. Connect the battery wires to the battery terminals.
   NOTE: a small spark might occur, this is normal.
10. Reinstall the front panel (fig. 4).
11. Fasten the two screws (fig. 5).

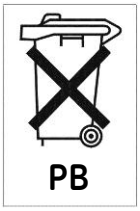


General guidelines

1. When replacing the batteries, use only the same type and size battery.
2. Never short the battery terminals. Shorting may cause the battery to burn. When working with batteries remove watches, rings or other metal objects and only use insulated tools.
3. Avoid charging in a sealed container.
4. Never dispose of batteries in a fire: they may explode.
5. Never disassemble or reassemble batteries; their contents (electrolyte) may be extremely toxic. If exposed to electrolyte, wash immediately with plenty of water, if eye contact occurs flush with water and contact a physician.

2.5 RECYCLING THE UPS AT THE END OF SERVICE LIFE

Pb	The batteries contain lead, which is a harmful substance for the environment. Proper disposal or recycling of the batteries is required. Refer to your local codes for disposal requirements!



	GE, in compliance with environment protection recommends that the UPS equipment, at the end of its service life, must be recycled conforming to the local applicable regulations.

3 TROUBLESHOOTING

Whenever a malfunction occurs, first check external factors (e.g. connections, temperature, humidity or load) to determine whether the problem is caused by the unit itself or by its environment. Subsequently check the thermal circuit breaker: it may be tripped. If so: reset it and be sure that the UPS is not overloaded.
The following chart is a simple troubleshooting checklist only. If the suggested solution does not succeed, or if the information is insufficient to solve the problem, please contact your dealer or consult www.gecriticalpower.com.

PROBLEM	POSSIBLE CAUSE	SOLUTION
UPS will not switch on	UPS line cord not connected and/or UPS is not switched on	Plug the line cord of the UPS into an AC wall outlet and switch on the UPS. If the wall outlet is dead, make sure the building branch circuit breaker is not accidentally turned off or contact a qualified electrician
	UPS circuit breaker tripped	Reduce the load, reset the circuit breaker
Continuous buzzer, red LED blinks	Overload on the “Battery backup & surge protection” outlets	Turn off the UPS and reduce the load connected to the “Battery backup & surge protection” outlets
UPS does not provide the expected runtime	The battery is not fully charged	Remove the load and charge the battery for at least 8 hours.
	Aging battery	Replace battery
Connected equipment loses power while connected to the UPS	Overload	See above
	Battery depleted	The UPS will turn off when the battery has been depleted during the mains failure. Allow the UPS to recharge the battery
	Equipment is connected to the wrong outlet	Plug the equipment that should continue to operate during a mains failure into the “Battery backup & surge protection” outlets
	The UPS may be faulty	Contact your dealer or consult www.gecriticalpower.com

4 SPECIFICATIONS

Model	:	**VCL400**	**VCL600**	**VCL800**	**VCL1000**	**VCL1500**
Rating VA/W	:	400/250	600/360	800/480	1000/600	1500/900
AC input voltage window	:	170 ~ 280Vac				
Frequency	:	50 / 60 Hz auto sensing				
Battery type	:	12V, sealed lead acid, maintenance free				
Number x capacity of battery	:	1x4.5Ah	1x7Ah	1x9Ah	2x7Ah	2x9Ah
Battery recharge time	:	8 hours typical				
Runtime in minutes at typical load (60%)	:	5	6	6	8	6
Internet / phone / fax protection	:	RJ-11 (One pair), 2C; 114 joules; clamping rate 330V				
Communication port	:	USB (RJ11)				
Ambient temperature	:	0°C ~ 40°C (+32°F ~ 104°F)				
Maximum relative humidity	:	95% (non-condensing)				
Storage temperature	:	-15°C ~55°C (+5°F ~ 131°F)				
Net weight (kg)	:	4.0	4.6	5.6	8.4	10.3
Dimensions (hxwxd, mm)	:	220x112x222			220x112x330	

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Due to technical improvements, some of the information contained in this manual may be changed without notice.

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